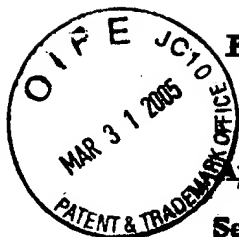


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PATENT

Docket No. 4208-4014

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Jukka Hantunen et al. Art unit: 2674  
 Serial No. : 09/903,193 Examiner: Regina Liang  
 Filed : July 11, 2001  
 For : ADVERTISING USING AN EBOOK WITH A BISTABLE DISPLAY

Mail Stop: Amendment  
 Commissioner For Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

### DECLARATION UNDER 37 C.F.R. § 1.131

SIR:

We, Jukka Hantunen, Kimmo Djupsjöbacka and Ari Aarnio, do declare and say:

1. We are the inventors of the subject matter claimed in the above-identified patent application.
2. We make this Declaration to establish conception of the invention claimed in this application in Finland at a date prior to January 25, 2001 coupled with due diligence from a period just prior to January 25, 2001 until our constructive reduction to practice of the claimed invention as a filed U.S. patent application on July 11, 2001.
3. Prior to January 25, 2001, we conceived of the subject matter of the invention claimed in this application. Prior to that date, we prepared an invention report detailing the claimed invention. A copy of that document is attached as Exhibit 1. Among other things, the invention report illustrates the concepts of: receiving an advertisement via one of an Internet or a digital video broadcasting network at the time of downloading content; displaying the content on a bistable display; detecting user inactivity with respect to the content; displaying the advertisement on the display; and removing power to the display, wherein the advertisement remains on the display after power has been removed and wherein power remains removed until

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## PATENT

Docket No. 4203-4014

user activity is detected. In short, the memo clearly illustrates our invention in sufficiently clear terms and shows conception thereof in Finland prior to January 25, 2001.

4. From a period prior to January 25, 2001 through July 2001, we were diligent in constructively reducing the invention to practice. During this period, our constructive reduction to practice of the claimed invention was active and reasonably continuous. In that regard, prior to January 25, 2001, we sent our invention report to Nokia Corporation's Patent Board, which caused our invention to undergo a review process, and which resulted in a decision to prepare and file a patent application in the United States. On May 8, 2001, Nokia sent instructions to outside counsel to prepare such a patent application. Throughout May and June of 2001, outside counsel worked diligently at preparing a draft patent application and, toward that end, communicated with the inventors concerning their invention. On June 27, 2001, outside counsel sent a draft of the application to the inventors for their review. After receiving and incorporating the inventors' comments, outside counsel filed the patent application with the U.S. Patent & Trademark Office on July 11, 2001.

5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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MAR. 31. 2005 8:51AM

PATENT

Docket No. 4208-4014

Jukka Hautanen

Jukka Hautanen

Dated: 31.3.2005

Kimmo Djupsjöbacka

Kimmo Djupsjöbacka

Dated: 31.3.2005

Ari Aarnio

Ari Aarnio

Dated: 31.3.2005

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# **Advertizing Using an eBook with a Bistable Display**

**NOKIA**

# Electronic book concept

Electronic book is a new product concept invented in 1998. The concept consist of an ebook terminal with a large display and a content providing infrastructure (internet based). Two compeercial products have already been released in USA and a couple of companies are planning to release products in the near future.

The basic idea of the ebook is that a huge amount of of printed books can be replaced by a single terminal to which the user can load content of the books from digitized libraries.

The electronic book is a book shaped device with a relatively large display (diagonal size 6-10"). The electronics consists of CPU, RAM, storage memory, battery and input buttons. The content can be loaded via a modem, wireless modem or a removable memory (for example compact flash, memory stick, minidisc, etc..)

# An ebook with a reflective and bistable display

**Reflective** display means that the ambient light is used for the illumination of the display. This is the case for example when text is read from paper. The most conventional LCD displays require backlight for the illumination which consumes a lot of electric power.

**Bistability** of the display means that once the image is written to the display further refreshing is not required. The image will be remained on the display even the power supply is disconnected from the display.

The main benefit of the bistability is that the power consumption of an electronic book will be drastically reduced. The operating time of an electronic book will be increased for example from 2 hours to 20-200 hours.

# **Reflective and Bistable Display technologies**

Reflective display technologies have started to be an object of keen interest in the in the end of 1990s. Many companies and universities develop these technologies, and commercial products are already available from several companies, for example, Seiko Epson, Sharp and Toshiba. Even though these reflective displays consume significantly less power than the displays with backlight they, still need power to frequently refresh the displayed image. Therefore, one aim of the present display technology development has started to be bistable technologies.

Reflective bistable displays are already commercially available. In US Kent Displays and Advanced Displays Systems are selling bistable and reflective displays realized by cholesteric liquid crystal technology. In Japan Minolta is also developing cholesteric LCD technology and commercial product are soon expected.

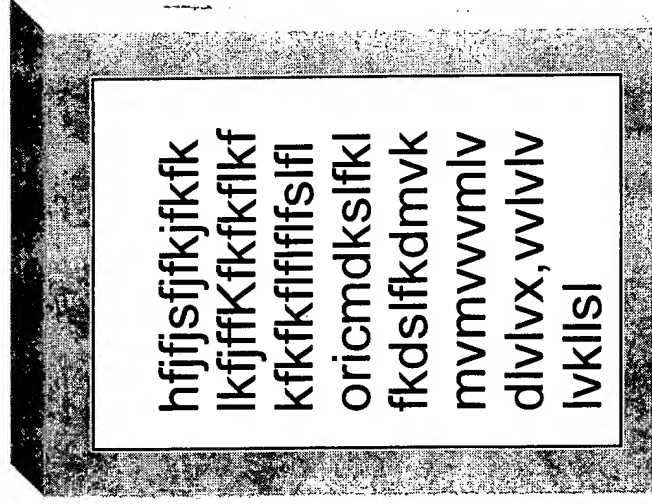
# Invention: Advertising after Reading

- Bistable display in normal operation:  
When user ends the reading, the last page is remained on the display. Because of the bistability of the display, the last page is remained an infinitely long time on the screen (up to several month depending on the technology).
- **Invention:**  
When user ends the reading, the last page is remained on the display. The device will register the page turning rate, and it also discovers when the page turning is stopped. After a pre-set time (for example 5 minutes after the last page turn), the device automatically removes the last page from the display and puts other information on the screen. The other information can be for example advertisement or product information.

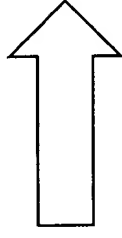
When the reader starts the reading again, the device remembers the last page that has been read and the this page is returned to the screen.

# Advertising after reading

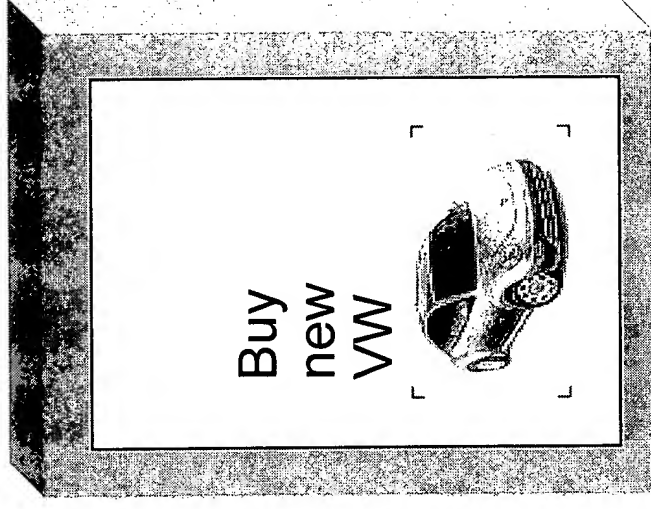
eBook



Reader stops reading, last page is remained on the bistable screen.



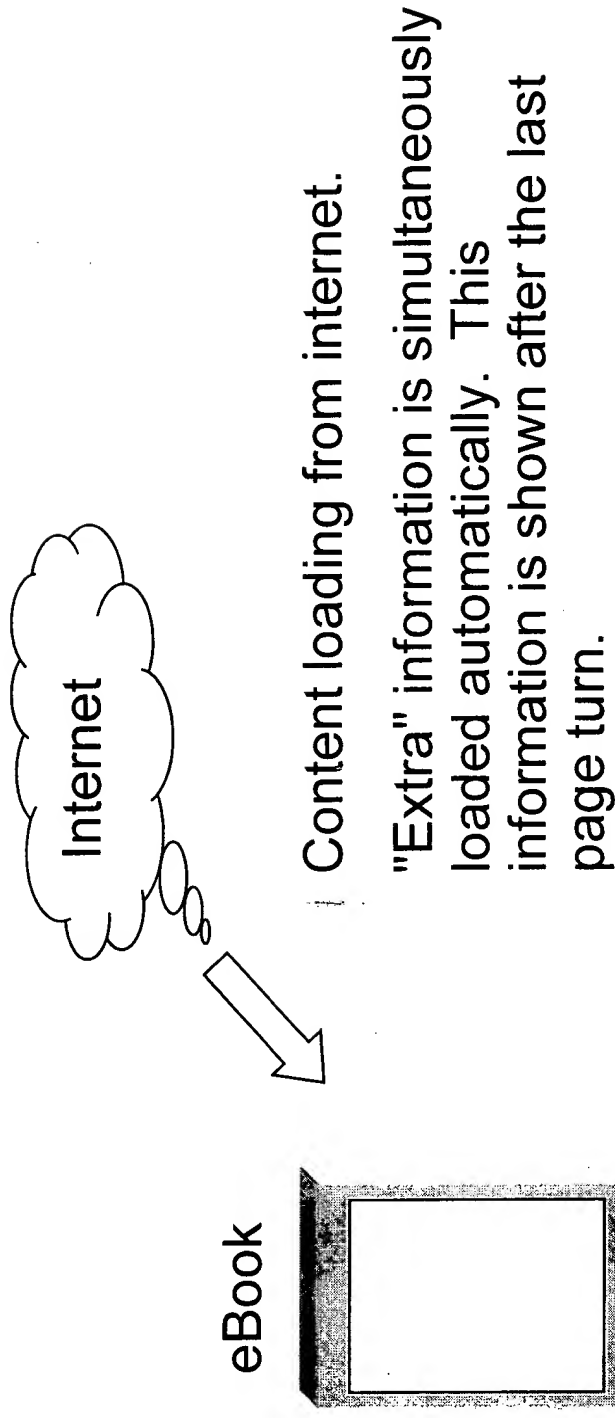
Pre-set time, for example 5 min.



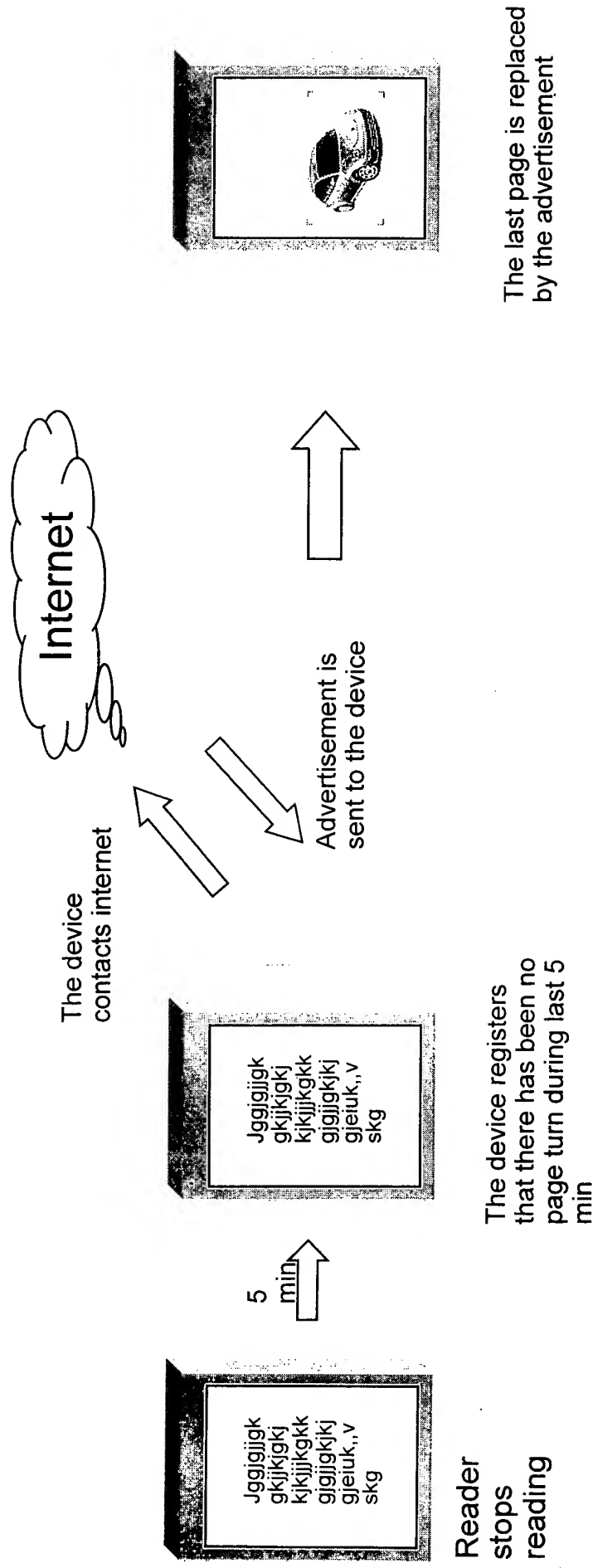
The last page is replaced for an example by an advertisement.

**NOKIA**

# System example 1.



# System example 2.



Instead of internet terrestrial digital TV broadcast or multicast could be used.

**NOKIA**